

# An Exploration of the Preparation and Organization of Teaching Practice Exercise to Prospective Science and Mathematics Teachers toward Improving Teaching Profession at Morogoro Teachers' College

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## Abstract

This paper explored the preparation and organization of teaching practice exercise to prospective science and mathematics teachers in Tanzania teachers college specifically Morogoro Teachers' College toward improving teaching profession. Due to the challenges stated by different scholars on preparation and organization of teaching practice exercise, the researcher doubt whether the teaching practice exercise prepared and organized at Morogoro teachers college during training helps the prospective science and mathematics teacher to improve their teaching professions. The study employed qualitative approach with a case study design. Key informant interview, documentary review and focus group discussion were the main methods of data collection where 32 respondents were purposively involved in data collection. Content analysis was used to analyze data thematically. The study found that the preparation and organization of teaching practice exercise at Morogoro teachers college was not effective to improve teaching profession of the prospective science and mathematics teachers, because the student teachers were not oriented practically to the teaching tools and towards proper teaching skills. On top of that the raking of the schools was not well conducted. Also the duration of teaching practices were not enough as well as inappropriate time planned for the exercise.

**Key words:** Preparation and Organization, Teaching Practice, Teacher Education, Science and Mathematics, Prospective Science and Mathematics Teachers, Student Teacher, Tutors.

## 1. Introduction

Teaching practice is one of the components of an education program that involves a deliberate upbringing of individuals through apprenticeship in order to acquire knowledge, skills, and values and transmit to them others (Jekayinfa, 2000). It is a cyclic affair which includes both the content area and pedagogical skills as one package for the trainees so as to prepare them to meet the requirements of the teaching profession. Through it, the school teachers who are considered mentors of any society are there to support the student teachers during this tough and complicated process of teaching practice for example the preparation of teaching and learning materials and lesson plan (Kafu, 2003). Teaching practice (TP), for instance, occupies a key position in the training programme of a teacher. It is a culminating experience in teacher preparation. It provides opportunities for beginning teachers to engage themselves and develop basic skills into the teaching profession (Gujjar, 2009). The performance during teaching practice provides some basis for predicting the future success (efficacy) of the teacher, for example, during teaching practice, the student teachers get a feeling of growth through experience and they begin linking theory into practice and also engaged, challenged and even empowered (Murtaza, 2005). Therefore, teaching practice is a specific period of time in which teachers-in-training are posted to schools to teach, demonstrate skills in practical terms of the knowledge and pedagogy they had acquired during training, they are assessed and corrected also on where they went wrong.

Teaching practice has three major connotations specifically the practicing of teaching skills and acquisition of the role of a teacher; the whole range of experiences that students go through in schools; and the practical aspects of the course as distinct from theoretical studies (Stones & Morris, 1977). Hence, the overall purpose of teaching practice is to expose student teachers to the actual teaching and learning environment (Ngidi & Sibaya, 2003).

Teaching practice has been observed to be efficient in a way or another, as it has provided real interface between student hood and membership of the profession and provision of experience in classroom and schools (Marais & Meier, 2004). Also teaching practice is efficient if it helps the student teacher to acquire knowledge and skills in teaching and learning (pedagogy and content knowledge) and engagement in other co-curricular activities in schools apart from teaching in the classroom (Gujjar, Naureen Saifi & Bajwa 2010).

There are several advantages of having teaching practice exercise integrated in teacher education programmes although there are dissatisfactions on its preparation and organization among stakeholders in education particularly to prospective science and mathematics teachers toward improving the teaching profession. Mbunda (1992) argued that teaching practice in Tanzania teachers' colleges has been experiencing some

problems on preparation and organization of which have been recurring over the years. Also Mosha (2004) in Tanzania argued that the preparation and organization of teaching practice exercise does not allow sufficient opportunity for observation to understand the characteristics of students, methods, meaning of classroom and outdoor education as well as abilities and practical knowledge of teachers. Ajay (2007) and Okebukola (2007) in their studies on teacher education in Nigeria found that teaching practice prepared and organized by colleges do not provide adequate opportunities for developing the desired competences for effective teaching as they are poorly prepared and organized. Failure of the teaching practice to develop the desired competences to prospective science and mathematics teachers, it results to poor quality in teaching science and mathematics in Tanzania secondary schools. This brings the attention to whether the prospective science and mathematics teachers in teachers colleges find the teaching practice exercise helpful in improving their teaching profession following the preparation and organization problems.

## **2. General and Specific Objective**

The general purpose of this study was to explore the preparation and organization of teaching practice at Morogoro teachers' college. Specifically the study intended to explore the organization and preparation of teaching practice of the prospective science and mathematics teachers toward improving teaching profession. The specific objective followed by the key research question which was: How is the teaching practice of the prospective science and mathematics teachers be prepared and organized toward improving teaching profession?

## **3. Literature Review**

### **3.1 The Concept of Teacher Education and Teaching Practice Exercise**

Teacher education is an educational programme that involves a deliberate upbringing of individuals through training in order to acquire knowledge, skills and values and transmit them to others (Jekayinfa, 2000). It is the process of making enough and high quality teachers as it involves the conversion of student teachers through the process of education and training as well as provision of opportunities for reflection about the job of teaching (Mosha, 2004). Therefore, teacher education refers to a process of gaining knowledge, skills and values provided to the individual or students who aim or aspire to become a teacher and be able transmit knowledge to others. Teacher education aims to develop teachers who are capable in choosing appropriate instructional strategies and appropriate means for effectiveness of student teaching and learning.

Teaching Practice exercise in colleges and universities is seen as the centre piece for the process of teacher training whether for primary school, secondary school or higher academic levels, it is the name of the preparation of student teachers for teaching by practical training (Nwanekezi, Okoli & Mezieobi, 2011). Teaching practice is the practical use of teaching methods, teaching strategies, teaching principles, teaching techniques and practical training and practice/exercise of different activities of daily school life (Gujjar *et al.*, 2010). It provides student teachers with experience in the actual teaching and learning environment hence we can say that TP is the key component of any teacher education. According to Stones and Morris (1977), teaching practice implies the practicing of teaching skills and acquisition of the role of a teacher in schools, the whole range of experiences that students go through in schools and the practical aspects of the course as distinct from theoretical studies. In addition, it is envisaged that the student teachers should conduct mini researches on the teaching and the teaching environment (Komba & Kira, 2013). This is also supported by Mahende and Mabula (2014) who argued that learning to teach is also enhanced by doing research during their teaching practice.

In different countries such as Botswana, Nigeria, Zimbabwe, Uganda, Kenya and Rwanda to mention but few, they implement TP in the same way but each country differs in duration according to their education structure. Their main emphasis of TP is to link theory learned in the college into practice in the classroom situation as it provides opportunity to beginning teachers to become socialized into the teaching profession (Gujjar, 2009). In this study the preparation and organization of teaching practice in teacher colleges involves all things done in the college to prospective science and mathematics teachers before leaving to the teaching practice stations. These includes microteaching, single lesson, demonstration and observation, peer teaching and preparation of teaching and learning resources (Karthogen, Laoghran & Russel, 2006; Kagoda, 2011; Saban & Coklar, 2013).

### **3.2 Microteaching Exercise**

Microteaching is the technique in teacher education which is used by the pre-service teachers to transfer the knowledge and skills into action and, thus, they try to bridge the gap between the theory and practice (Peker, 2009; Utami & Nafiah 2016). This technique offers new and different opportunities to pre-service teachers about the planning and implementation of new teaching strategies. In teacher colleges microteaching is conducted under the guidance of a subject tutor in a way of practicing a particular teaching method.

Usually microteaching takes place within the normal classroom of the teacher trainee aiming to make the student teachers be familiar with various teaching methods and allow them to learn and later use such

methods in teaching in a classroom situation (Ranjan, 2013). Student teachers have to prepare the lesson plan that the subject is determined and perform microteaching to real students that were planned and prepared by them. Also, lectures are recorded by video camera or portable receivers. After that, prospective teachers watch and hear themselves from the video recording at the end of the lecture so as to view his/her strengths and weaknesses as other students provide feedback (Utami & Nafiah 2016).

Darling-Hammond (2005) in United States of America argued that microteaching is a technique that focuses on a single aspect of teaching for a limited time with a small number of learners in the classroom. It refers to an 8-10 minutes lesson in which a student teacher briefly puts into practice the elements of effective teaching. Her study revealed that microteaching always helps student teachers to incorporate some aspects of teaching into practice when practicing it in the classrooms. On top of that, Saban and Coklar (2013) revealed that prospective teachers believed that the micro-teaching method gives a chance to evaluate their strong and weak aspects in teaching. At the same time it helps student teachers to develop timing, planning, asking questions, management of class, using different materials and examples as well as physical appearance during the teaching process (Utami & Nafiah 2016) . In a study conducted by Kpanja (2001) in Britain revealed that during the review and evaluation of microteaching the student teachers are expected to improve their teaching skills through the feedback given by their peers and respective tutors.

Peker (2009) argued that microteaching is a primary utility before teaching practice and insists that when done prior to the field experience it makes student teachers more confident and able to work independently and effectively in the classroom as it involves the process of teaching, criticizing, re-planning, re-teaching and re-criticizing. The specific skills that may be focused in a microteaching lesson include classroom management, the use of teaching materials and questioning skills which finally provide prospective teachers confidence and knowledge when teaching in the classroom (Utami & Nafiah 2016).

However, microteaching process faced a number of challenges in its implementation such as lack of equipment used in the class as well as the lesson materials before start of the lesson, lack of laboratory for microteaching causes concern and excitement which is seen as a problem to pre-service teachers when taking a video for observations and lack of flexibility to teachers in guiding and assisting them during microteaching process (Peker 2009; Saban & Coklar, 2013).

In developed countries the microteaching is conducted effectively using modern tools e.g. video tapes where the students can use them to listen and play back or pause when asked questions after teaching but in a developing country including Tanzania the process is not well done in teachers colleges due to lack of knowledge, skills and technological facilities. For an effective microteaching exercise the developing countries including Tanzania should commit themselves in enough funds that will be allocated to the training colleges so as to have tools for conducting microteaching.

In another study which was conducted by Ekiugbo (2013) in Nigeria on microteaching and subject methodology revealed that microteaching has always had positive influence and feedback on teaching practice so the student teachers in the colleges if possible should be taught micro teaching subjects in both theory and practices. Moreover, Utami and Nafiah (2016) points out that microteaching is important as it provides assistance to initial teacher trainees. It helps to provide opportunity for utilizing skills in a setting that is close to real environments so as to build students' confidence. In Tanzania, the study conducted by Komba and Kira (2013) revealed that most of the student teachers had poor teaching skills and this could be attributed to poor preparations in colleges and the lack of microteaching during training and recommended that teachers training should strengthen microteaching during training, apart from the teaching practice itself.

### 3.3 Demonstration/ Observation

A demonstration is the process when an experienced teacher shows a beginning teacher the proper use of a strategy, skill, or technique by incorporating it into an actual classroom lesson. The experienced teacher demonstrates the designated skills in the classroom while the beginning teacher observes (UNESCO, 2006).

In teacher colleges, tutors are supposed to organize and conduct demonstration in the training process so that, the student teachers can observe the teaching skills required in teaching before they embark on real teaching practice. Bengtson (1993) points out that the teacher who is supposed to practice or utilize the theory should have a chance to see another person using it so as to understand the theory. The study which was conducted by Stuart, Akyeampong and Groft (2009) in England on education practices realized that observation of teachers in action should be an important part of every teacher training as many student teachers learn more by demonstration and observation. On top of that student teachers learn to teach from watching and imitating others, also they learn from experience and reflection (Karthogen *et al.*, 2006).

The study was conducted by Ilene (2013) in Zimbabwe and pointed out how demonstration has worked and improved teaching as follows; it enhances the translation of theory into practice as the students can observe when teachers are demonstrating and do the same through the skills acquired. Therefore, demonstration technique enables tutors to cover all the necessary steps in the process of teaching as it explains directly how

things are done by actually doing it. Demonstration also gives students an opportunity to see and hear the details related being taught such as background knowledge, steps or procedure precaution. Also demonstration provides proficiency (Chikuni, 2003).

### **3.4 Peer Teaching, Single Lesson and Preparation of Teaching and Learning Materials (T/L)**

*Peer teaching* is a suite of practices in which peers instruct each other in a purpose-driven meaningful interaction with greater mastery area of teaching less-experienced peers or those who are yet to master the skills and content of the subject area or certain skills (Kalkowski, 2001). It is an approach in which student teachers learn from other student teachers who are more experienced and knowledgeable for the purpose of improving practical teaching of student teachers (MoEC, 1995).

It is a kind of practice done in the classroom where the student teachers practice teaching among themselves even in the absence of a tutor. In this case one student teacher is appointed to teach his/her colleagues and the aim of this practice is to get knowledge and skills which will be produced from the practice (TIE, 2013). Through this practice the future teachers will be able to take control of their professional development from their earliest stage of their career (Asher & Lyn, 2000).

*Single lesson* is used as a strategy for improvement which focuses directly to the student teacher teaching in a class for one period per week in a nearby school, college or demonstration school (Murphrey, 1996). Before the actual teaching practice exercise the student teachers are supposed to conduct a single lesson to put into practice the theoretical part, peers are there to provide reflection to teaching and prepare teaching and learning aids before the actual teaching practice.

In case of single lesson the student teacher is assigned to teach only one lesson or a period of 40 or 80 minutes at school (MoEC, 1995). The student teacher is observed by the tutor (supervisor) who will be responsible to provide the strengths and weaknesses at the end of the lesson. The student teachers have the opportunities to teach, participate and learn from their own experiences through this approach (TIE, 2013).

*Preparation of teaching and learning materials*, in this case the student teachers are required to prepare the teaching and learning materials concerning the topics in which they are expected to teach during their teaching practice (Chiromo, 1999). This involves the buying of subject syllabuses of their subjects of specialization, textbooks and construction of teaching and learning aids.

### **3.5 Knowledge Gap**

Many studies have been conducted in different countries including Tanzania on teaching practice exercise in general. There is no study conducted so far specifically to explore the preparation and organization of teaching practice to prospective science and mathematics teachers at Morogoro teachers' college. This study aimed to fill the gap.

## **4. Methodology**

### **4.1 Study Area**

This study was conducted at Morogoro Teachers' college which was obtained through simple random sampling among seven public teachers' colleges offering science and mathematics training at diploma level. Eight science and mathematics college tutors and twenty four science and mathematics student teachers were purposively selected.

### **4.2 Research Design and Data Collection**

The study employed a qualitative research approach where a case study research design was used. Qualitative data on the preparation and organization of the teaching practice exercise for prospective science and mathematics teachers toward improving teaching profession were collected by using documentary review, key informant interviews and focus group discussions.

### **4.3 Data Analysis**

Content analysis was used to analyse data which were obtained through interviews, focus group discussions and documentary reviews. In depth descriptions of specific themes based on research objective and its related question was provided as most of the data were in form of words.

## **5. Results and Discussions**

### **5.1 Preparation and Organization of the Teaching Practice Exercise to Prospective Science and Mathematics Teachers**

Good teaching practice should be well prepared and organized before its implementation. In this part the researcher wanted to establish how teaching practice exercise was prepared and organized by looking the following components. Preparation of scheme of work, lesson plan, logbook and teaching and learning aids,

orientation of prospective teachers toward teaching skills, the duration of teaching practice, time plan and ranking of the practicing schools.

## **5.2 Preparation of Scheme of Work, Lesson Plan, Logbook and Teaching and Learning Aids**

During interviews with the tutors, 5 out of 8 said that the student teachers did not thoroughly learn how to prepare the schemes of work, lesson plans and log books practically in the college before they went out for teaching practice due to limited time to start practicing on these items. One of the tutors said that:

*"...we just teach them theoretically the components of scheme of work, lesson plan and logbook. In a real sense no emphasis is done on real practice until when they go out for their TP in schools..."*

The quote implies that in the college there was no emphasis on teaching preparatory skills on the special teaching components that could be used during teaching practice. Hence, many student teachers failed to prepare them when they go for the teaching practice. However, the other 3 tutors argued that the student teachers were prepared practically in the stream/class they teach before going to the TP by taking them through the planning stage by preparing samples and then demonstrating to them during the teaching and after which they were given assignments. Hence, only few tutors engaged the student teachers practically in learning how to prepare the schemes of work, lesson plan and logbook in their streams/classes as each tutor had own stream/class to teach, others taught just about the components theoretically and left the students until TP.

During the focus group discussion, the first group revealed that they went to their teaching practice without being prepared practically; also that their tutors had confused them especially in preparing the lesson plans and scheme of work according to Competence Based Curriculum (CBC) due to what they attributed as partial knowledge of CBC to their tutors. The second group responded that in the college they learnt theoretically the preparation of scheme of work and lesson plan. In the case of logbooks they said that they do not know anything about it as the tutors were not interested in the preparation or filling of logbooks during assessment. These findings suggest that the tutors have to change and put a lot of emphasis on the preparation of these documents according to CBC so as to avoid contradiction with student teachers and also make sure that all the students do prepare schemes of work, lesson plan and logbook practically before teaching practice.

The researcher also wanted to know if the student teachers were exposed to the preparation of teaching and learning aids prior to the TP exercise so as to be familiar with different teaching and learning aids for different topics and know the right time to use them in the classroom when teaching. During the interviews, 7 out of 8 tutors reported that the student teachers prepared T/L aids just one week before going to the teaching practice where one of them said:

*".... I can't say they are prepared to make teaching aids because they are given only one week to prepare before they leave for TP and in a hurry, and this is done only in one subtopic with poor materials, that would not help them for their teaching practice....".*

This quote implies that there is no efficiency in the preparation of the T/L materials prior to TP that would help student teachers. It could be better for everyone to prepare them during college time in every covered topic so that they could be familiar with the preparation of T/L aids during TP and the rest of days in their teaching profession. Both student teachers' focused group discussions revealed that they had prepared teaching and learning aids one week before the start of TP, but the exercise was not taken seriously as there was no enough time to demonstrate and know the weakness of the aid, and hence one could not improve on it. These findings provide evidence that the exercise of preparing teaching and learning aids in Teacher College is not comprehensively done to allow student teachers gain important skills on how best to select and prepare teaching aids, how to use them and identify learning skills learnt and challenges. Therefore the exercise of preparing T/L aids need to be reviewed.

## **5.3 Orientation of Prospective Science and Mathematics Teachers towards Learning Proper Teaching Skills**

### **5.3.1 Demonstration and Observation**

During the training of student teachers in the college, teachers and students from demonstration school would be invited into the college to involve into conducting the lesson in the hall with their students so that the student teachers in the college and their tutors could observe the way the teacher was teaching his/her students and acquire some skills in teaching.

During the tutors' interviews seven tutors out of eight revealed that 'demonstration and observation' process is conducted in the college by the student and teachers from the demonstration school where the student teachers and their respective tutors observed the teaching skills used during teaching. In that regard, one of the tutors observed that, although the demonstration was conducted in the college premises, it was not effective to provide necessary skills to the student teachers because there was no opportunity for the demonstrating teacher to sit with the student teachers in the class and discuss each step on what went on during teaching. This did not help student teachers to clarify the questions and doubts on the teaching strategies used, resources used and also

the selection of the content and examples used.

Therefore, the demonstration and observations seem to be wastage of student teachers' time as they failed to learn any important skills through the demonstration and observation. The focus group discussions also supported the findings from tutors that the demonstration was conducted but they did not learn much as they were not given an opportunity to ask questions due to the fixed time table of the demonstration school. During the focus group discussions with mathematics student teachers one of the student teacher responded as follows:

*"...you find that after demonstration the teacher from demonstration school leave with his/her students back to school without clarifying our questions following what he/she was teaching and the teaching approaches used...."*

The quote implies that the demonstration which is supposed to be interactive in teacher training colleges is not effective since it does not help the student teachers to acquire the required skills through observations, questioning and answers. Hence, there is a necessity of the college to review the way they use to organize demonstration lessons with the demonstration school so that the student teachers can achieve their objective. The findings are in line with those of Benjaars, Otiende and Boisvert (1994) who conducted a study in Kenya and whose findings showed that demonstration and observation of a lesson in teacher colleges should be conducted regularly for student teachers who have not yet gone to teach, as student teachers are able to observe teaching in its natural setting and learn some skills which will help them to teach.

### **5.3.2 Microteaching, Single Lesson and Peer Teaching**

The findings from interviewed tutors' on whether they do conduct microteaching or not, 5 tutors out of 8 indicated that they did; but very rarely due to the lack of time in the college, also when it was conducted it would involve few student teachers due to the fixed timetable. The remaining three tutors said that they did not conduct microteaching at all due to large number of student teachers in the classroom, for example there were up to 73 student teachers in one stream. In the focused group discussions both biology and mathematics groups revealed that they had never attended a microteaching even on a single day although it was written in their course outline.

Additionally, both tutors' interviews and focused group discussions revealed that no single lesson or peer teaching was conducted at college level as one of the strategies to orient student teachers in the selection and use of proper teaching skills. The findings imply that student teachers are oriented to theoretical teaching skills with very few strategies hence cannot implement it during TP. These findings are in line with the findings of Komba and Kira (2013) who conducted their study in Tanzania and found that during teaching practice student teachers showed poor teaching skills due to lack of microteaching during their training.

### **5.3.3 Duration of Teaching Practice, Time Plan and Raking of the Practicing Schools**

In this part the researcher investigated whether the duration of teaching practice given to student teachers was enough and if the time they went was appropriate to them. Also the researcher investigated how the search/raking of schools was done prior to teaching practice. In getting information on these aspects, the researcher conducted the documentary review, interview to tutors and focused group discussion to prospective teachers as explained in the following sub sections.

#### **(i) Duration of Teaching Practice and Time Plan**

According to 2007 curriculum framework of teacher education in Tanzania the student teachers have to go to the teaching practice in their second term of each academic year which starts in January for two months which is equal to 8 weeks (TIE, 2007). During researcher's visits in the college he founded that the student teachers had left for their teaching practice session by mid of March instead of January and they had to stay for 6 weeks instead of 8 weeks. This is contrary to what was stated in the curriculum framework of teacher education. These findings were explained by tutors' interviews and focus student teachers' group discussions as follows. During the interviews all 8 tutors reported that the duration given to the student teachers to attend teaching practice was not enough in the following ways. The duration of teaching practice was not constantly 8 weeks as stated in the frame of teacher education, it fluctuated depending on government expenditure allocation of that academic year, for example in 2013 student teachers went to TP for 8 weeks while in 2014 students went to TP for 6 weeks due to late allocation of the resources for the exercise and which also were not able to cover fully the TP for 8 weeks. Notwithstanding, the duration of teaching practice which was six weeks was also interrupted by midterm break of the practicing schools, and public holidays for example Easter holidays which made the duration of TP to decrease literally from six weeks to three and half weeks. During the focus group discussions both groups indicated that the TP duration was inadequate to improve their teaching practice because they did not stay in their schools for two months. The time was split into several activities and events which consumed their time including the first week of reporting to TP stations, interruptions of midterm break and Easter holidays. The findings imply that the 8 weeks stated in the curriculum framework of teacher education would be enough to conduct the TP if there would be no interference. In case of teaching practice time frame, interview and focus group discussion findings revealed that the time when they went for TP from February or March up to the end of April was contrary to what was stated in the framework of teacher education that they should go at the start of the second semester which always started in January. The time when teachers colleges involve their student

teachers in TP is not appropriate.

The researcher is suggesting that the student teacher should go to teaching practice as early as January as stated in the curriculum frame work for teacher education so as to avoid the interrupting midterm break and other public holidays in the coming weeks. These findings are in line with the study findings of Ranjan (2013) in India and Quick and Sieborger (2005) in South Africa that the duration of teaching practice was not enough to improve teaching skills. The findings are also in line with the findings of Mahende and Mabula (2014) in Tanzania who revealed that during teaching practice the student teachers get difficulty in classroom management and organization, classroom control, student-teacher interaction, selection and effective use of teaching methods, useful and timely use of teaching materials and confidence due to the short time in practice teaching.

#### (ii) Raking of the Practicing Schools

Raking is the process where the college management send some tutors to go and seek schools where at later will send their student teachers for teaching practice exercise. In this aspect the researcher wanted to know whether raking of the practicing schools was conducted as planned, so as the practicing schools should have prior information so as to get prepared for receiving student teachers and allow them to practice teaching in their schools. During interviews six tutors out of eight observed that raking was not done early enough due to lack of resources and sometimes they used previous information to allocate student teachers where it resulted to student teachers to be rejected in some schools due to miscommunication between the college and the heads of schools. The other two tutors indicated that they did not know the time when the raking was in progress as they are not involved in the process.

This implies that raking of the schools during TP preparation and organization was not taken seriously as a component following tutors' comments. Tutors and college management should conduct raking before implementation so as to avoid the rejection of student teachers and also to identify the schools with laboratories so as to allocate the science and mathematics student teachers as there are no any criteria to select the practicing schools apart from the school accepting to receive student teachers for the TP.

## 6. Conclusion and Recommendations

The findings of this study showed that the teaching practice exercise prepared and organized at Morogoro teachers' college did not improve teaching profession of the prospective science and mathematics teachers because, during its preparation and organization of TP the student teachers are not oriented practically on the preparation of schemes of works, lesson plans, logbook and T/L aids prior to TP. The student teachers are not oriented towards proper teaching skills through microteaching, demonstration, single lesson and peer teaching prior to TP. On top of that the raking of the school is not well conducted. Also the duration of teaching practices is not enough as well as inappropriate time plan for the science and mathematics teachers to improve their teaching profession due to some interference during TP in schools.

The researcher recommended that the tutors in teachers' college should guide the prospective science and mathematics teachers to prepare schemes of work, lesson plans, logbook and teaching and learning aids practically as well as orienting them toward proper teaching skills through microteaching, single lesson, demonstration/ observation and peer teaching. Also they have to conduct raking/searching of schools as early as possible.

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## REFERENCES

- Ajayi, K. (2007). Emergent Issues in Teacher Education and Professionalization of Teaching in Nigeria. *African Journal of Historical Sciences in Education*, 3(1), 5-25.
- Asher, C., & Lyn, O. (2000). *Teaching in primary schools continuum*. London: Macmillan publishers: London.
- Bengtson, J. (1993). Theory and practice: Two fundamental categories in philosophy. *Teacher Education Review*, 45(3), 133-139.
- Bennaars, G.A., Otiende, J.E., & Boisvert, R. (1994). *Theory and practice of education*. Nairobi: East Africa Educational Publishers Ltd.
- Chikuni, B. (2003). *The teachers handbook: A practical approach to teaching*. Gwanda,: Flame Publishers.
- Chiromo, A.S. (1999). Teacher education course in relation to preparation for teaching practice: Views from student teachers. *Zimbabwe Journal of Education Research*, 11(1), 59-69.
- Darling-Hammond, L. (2005). *Preparing teachers for a changing world: What teachers should learn and be able to do*. U.S.A: Jossey- Bass.
- Ekiugbo, U.K., Awodun A.O., Kenni A.M., & Boris, O.O. (2013). Micro-teaching and teaching subject

- methodology as correlates of science students' achievement in teaching practice exercise in Nigerian colleges of education. *International Journal of Science and Research*, 2(6),390-392.
- Galton, M. (1990). Advances in teacher education: The case of primary teacher training. *Education Research and Perspective*, 17(1), 71-82.
- Gujjar, A.A. (2009). *Teaching practice: Concept, stages, objectives and suggestions*. Retrieved from <http://www.addthis.com/bookmark.php?v=20>
- Gujjar, A.A., Naureen, B., Saifi, S., & Bajwa, J.M. (2010). Teaching practice: Problems and Issues in Pakistan. *International Online Journal of Educational Sciences*, 2(2), 339-361.
- Iline, C.S. (2013) Impacts of the demonstration method in the teaching and learning of hearing impaired children. *Journal of Humanities and Social Science*, 12(1),48-54
- Jekayinfa, A.A. (2000). *The essence of lesson presentation in teaching practice*. Nigeria: Ilorin Haytee and Publishing Co. Ltd.
- Kafu, P.A. (2003). Teacher education: Its implications to quality of teachers in Kenya (Unpublished paper). Moi University, Kenya.
- Kagoda, A.M. (2011). The role models and life histories of teacher trainees as tool for effective teacher education: A case of geography teacher trainees, School of Education, Makerere University, Uganda. *Academic Research International*, 1(3), 47-58.
- Kalkowski, P. (2001). Peer and cross-age tutoring. *Northwest Regional Educational Laboratory School Improvement Research Series*. Retrieved from: [nwrel.org/scpd/sirs/9/c018.html](http://nwrel.org/scpd/sirs/9/c018.html)
- Karthogen, F., Loughran J., & Russel, T. (2006). Developing fundamental principles for teacher education programmes and practices. *Teaching and Teacher Education*, 22(3), 1020-1044.
- Komba, S.C., & Kira E.S. (2013). The effectiveness of Teaching practice in improving student teachers' teaching skills in Tanzania. *Journal of Education Practice*, 4(1), 157-163.
- Komba, W.L., & Nkumbi, E. (2008). Teachers professional development in Tanzania: perceptions and practices. *Journal of International Cooperation*, 11(3), 67-83.
- Kpanja, E. (2001). A study of effects of video tape recording in microteaching training. *British Journal of Educational Technology*, 32(4), 483-486.
- Mahende, G.A.,& Mabula, N. (2014). Is teaching practice for grading or improvement? Examining student teachers' perception and experience at the University of Dar es Salaam, Tanzania. *African Education Research Journal*, 2(1), 1-11.
- Marais, P., & Meier, C. (2004). Hear our voices: Student teachers' experience during practical teaching. *African Journal of Education Review*, 1(2), 220-233.
- Mbunda, P. (1992). *Teaching practice report*. University of Dar es Salaam.
- Mchomvu, I.J. (2004). *Student teachers' perception on the value of teaching practice at the University of Dar es Salaam*. Unpublished Masters of Arts in Education Dissertation, University of Dar es Salaam, Tanzania.
- MoEC (1995). *Tanzania education and training policy*. Dar es Salaam: Ministry of Education and Culture
- Mosha, H.J. (2004). New direction in teacher education for quality improvement in Africa *Papers in Education and Development*, 24, 18-22.
- Murphey, T. (1996). Near peer role models. *Teacher Talking to Teacher*, 4(3), 21-23.
- Murtaza, A. (2005). *Comparative study of practice teaching in formal and non formal systems and development of a model*. Unpublished PhD Thesis, Arid Agricultural University, Rawalpindi.
- Nwankezezi, A.U., Okoli, N.J., & Mezieobi, S.A. (2011). Attitude of students teachers towards teaching practice in the University of Port Harcourt, River State, Nigeria. *Journal of Emerging Trends in Educational Research and Policy Studies*, 2(1), 41-46.
- Okebukola, P. (2007). Innovation and best practice teacher education in Nigeria. A lead paper presented at the 1<sup>st</sup> International Conference on Teacher Education, Faculty of Education, University of Lagos, 25<sup>th</sup>June, 2007.
- Peker, M. (2009). Pre-service mathematics teacher perspectives about the expanded microteaching experiences. *Journal of Turkish Educational Science*, 7(2), 353-376.
- Ranjan, R. (2013). A study of practice teaching programme: A transitional phase for student teachers. *Voice of Research*, 1(4), 24-28.
- Saban, A., & Coklar, A.C. (2013). Pre-service teachers' opinions about the micro-teaching method in teaching practice classes. *The Turkish Online Journal of EducationalTechnology*, 12(2), 234-240.
- Stones E., & Morris, S. (1972). *Teaching practice problems and perspectives: A reappraisal of the practical professional element in teacher preparation*. Washington DC: Taylor & Francis.
- Stuart, J., Akyeampong, K., & Groft, A. (2009). *Key issues in teacher education. A source book for teacher education in developing countries*. London: Oxford Macmillan.
- Tanzania Institute of Education (TIE) (2007). *Curriculum for diploma in teacher education programmes*

- Tanzania. Dar es Salaam: TIE.
- TIE (2013).Diploma in secondary education curriculum module. Dar es Salaam: TIE
- Taylor, V.P. & Lawrence, J. (2007).*Peer teachers presentation*. Texas A&M Computer Science. Retrieved from: [www.cs.tamu.edu](http://www.cs.tamu.edu)
- United Nations Educational, Scientific and Cultural Organization (UNESCO) (2006)*Practical tips for teaching large classes: A teacher's guide*. retrievedfromwww2.unescobkk.org/ips/ebooks/documents/Embracing\_Diversity/index
- Utami, W. M & Nafi'ah, M. U. (2016). A Model of microteaching lesson study implementation in the prospective history teacher education. *Journal of Education and Practice*, 7(27), 10-14.
- Vasay, E.T. (2010). The effects of peer teaching in the performance of students of mathematics. *International Scientific Research Journal*. 2(2), 65-69.